



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/749,662

12/31/2003

Pirjo Pasanen

088245-0236

9738

23524 7590 02/08/2008
FOLEY & LARDNER LLP
150 EAST GILMAN STREET
P.O. BOX 1497
MADISON, WI 53701-1497

EXAMINER

BOCURE, TESFALDET

ART UNIT

PAPER NUMBER

2611

MAIL DATE

DELIVERY MODE

02/08/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/749,662

Applicant(s)

PASANEN ET AL.

Examiner

Tesfaldet Bocure

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 November 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5-14 and 17-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-3 and 5-14 is/are allowed.
- 6) ☒ Claim(s) 17-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 November 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☒ Other: Drawing correction.

DETAILED ACTION

1. Claims 1-3, 5-14 and 17-21 are pending in the application.

Drawings

2. The drawings were received on 11/21/07. These drawings are approved by the Examiner.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 17,18,19,21 are rejected under 35 U.S.C. 102(e) as being anticipated by **Periyalwar et al. Periyalwar** hereinafter (US patent number 7,218,891, of a record).

Periyalwar teaches a multi-hop communication system (see for example figs. 6, and 9), wherein the relay station (62 in fig. 6) having a first radio interface and a multi-input-multi-output antenna for communicating between source station (63) and base station (61) as in claim 17; and communicating with at least one base station using a multi-input-multi-output as in claim 18. The relay station 62 communicates in FDD and

TDD, claimed simultaneously, between the base station and that of the source station (63) as in claim 17

The system of **Periyalwar** uses different array of antennas in the multi-input-multi-output configuration depending on the rate of transmission required between the source station and destination station using the relay unit (see col. 1014-54).

Further to claims 19 and 21, **Periyalwar** also teaches that a pilot signal is used for measuring the signal strength for purpose of routing (see abstract) as in claim 19; and the transmission between base unit and the relay station (62) using a time division duplexing as in claim 21..

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Periyalwar et al. Periyalwar** hereinafter (US patent number 7,218,891, of a record) in view of **Fujiwara** (US patent Publication number 2003/0165127, of a record).

Periyalwar teaches the claimed subject matter in claims 17 as indicated above.

Further **Periyalwar** also teaches that a pilot signal is used for measuring the signal strength for purpose of routing (see abstract). However, **Periyalwar** fails to teach that a memory containing identification information.

Fujiwara for the same endeavor as the instant application and that of **Periyalwar** teaches a multi-hop communication system for communicating between source and destination through at least on relay stations, wherein the communication between the source and destination using an identification (see fig.8) for identifying the relay unit to rout the data from the source to the destination.

Therefore, it would have been obvious to one of an ordinary skill in the art to use the identification of **Fujiwara** in the system of **Periyalwar** for identifying the relay and properly routing the signal to be transmitted between the sources to the destination using the ID of each of the relay unit at the time the invention was made.

Allowable Subject Matter

7. Claims 1-3, 5-14 are allowed.
8. The following is a statement of reasons for the indication of allowable subject matter: the claimed subject matter in claims 1-3 and 5-14 is allowable because the art of record fail to teach or fairly suggest the claimed "multi-hop communication system for simultaneously communicating between the first and second real station and that of the base station using a first radio interface and between the first relay station and the user station using a second radio interface." See specification for example in paragraph [0009], where the resource is maximized by using separate radio interfacing between the user and the relay and second interfacing between the relay and the base station..
- 9.

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tesfaldet Bocure whose telephone number is (571) 272-3015. The examiner can normally be reached on Mon-Thur (7:30a-5:00p) & Mon.-Fri (7:30a-5:00p).

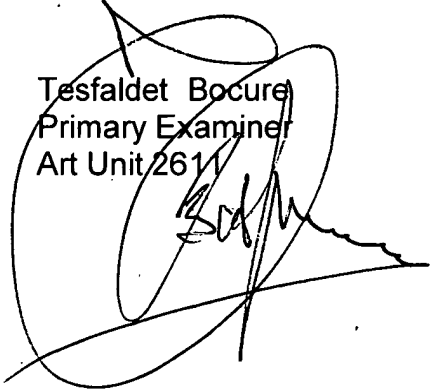
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammed H. Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Application/Control Number:
10/749,662
Art Unit: 2611

Page 6

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Tesfaldet Bocure
Primary Examiner
Art Unit 2611



T.Bocure

10/749,662

HP
2/3/08

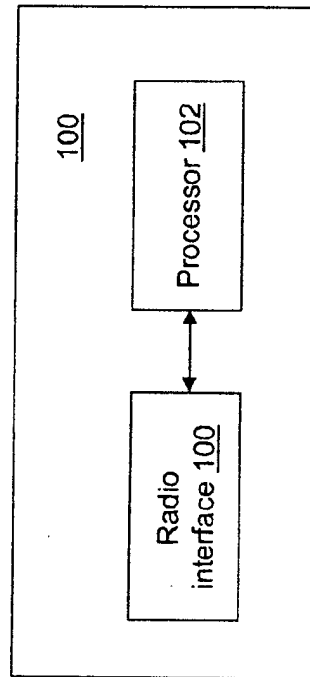


Fig. 8